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Silicon Valley's next big thing could be small: nanotechnology

FOR now, the best-known display of nanotechnology may well be "Prey," Michael Crichton's sci-fi thriller about tiny robots running amok.

But nanotechnology, the science of creating and manipulating objects at the atomic or molecular level, is about far more than spooky entertainment. Nanotech is being used to develop new types of semiconductors and electronic displays, new materials for medical and industrial applications, and new sensors that can detect environmental and other hazards. Nanotech products already in use range from ultra-hard drill bits to ultra-light parts for SUVs.

Dozens of nanotech startups have sprung up in recent years, including many in the Bay Area. Yet much of the work remains at the research level in industrial and academic labs. Progress is limited in large part by a dearth of trained scientists.

That's why Congress ought to support two bipartisan bills that would establish a structure to fund nanotech research and development. In the House, Reps. Sherwood Boehlert, R-New York and Mike Honda, D-San Jose, are calling for a modest \$2.1 billion in spending over three years, and the establishment of a non-governmental advisory board to assess ethical and other concerns. A similar bill by Sens. Ron Wyden, D-Oregon, and George Allen, R-Va., calls for \$678 million in spending next year.

The federal government, under an initiative that began under President Clinton, already provides funding for nanotech -- \$846 million in the 2004 budget. The bills in Congress would create an enduring structure to support funding across various agencies, which would strive to keep the United States in the forefront on nanotech.

Several other countries, in particular Japan and China, have made nanotech a national priority.

There's little doubt that an American investment will contribute to the long-term health of Silicon Valley and the Bay Area. With nanotech projects at companies ranging from startups to IBM and HP, as well as local universities, NASA Ames, Livermore and Sandia National Labs, to name a few, no region stands to gain more.

As is the case with many new technologies, nanotech is often misunderstood -- and overhyped. Unlike software or semiconductors, nanotech is not an industry in itself. Rather, it is an enabling technology, a tool, that will play a key part in creating products and technologies in multiple industries.

Nanotech will not replace the valley's lost jobs anytime soon. Over time, however, it could play a key role in ensuring that the area remains an epicenter of innovation and economic growth.